

**ABSTRACT**

The DNA probes produced by molecular cloning and the characterization of specific gene region sequences is provided, these can be used as genetic markers for the genes such as Cytochrome b (cyt b); Mitochondrial control region ( D-Loop); Inter Transcribed Spacers (ITS2) and Rhodopsin ( ROD), 12S rRNA and 16S rRNA in mesopelagic lantern fishes which are found in the mesopelagic zones of the oceans where the photic regime is of dim light and associate themselves with the oxygen minimum layer, it also includes the recombinant DNA techniques for the preparation of specific gene probes and sequences of species specific primers of lantern fishes, novel gene probes and novel oligonucleotides for amplification of myctophid genes are disclosed.